



(12) **United States Patent**
Chang

(10) **Patent No.:** **US 9,410,491 B2**
(45) **Date of Patent:** **Aug. 9, 2016**

(54) **METHOD AND DEVICE FOR VEHICLE STOP AND STARTING AND POSITION-LAMPS DISPLAY**

(71) Applicant: **Fu Ling Chang**, Taoyuan County (TW)

(72) Inventor: **Fu Ling Chang**, Taoyuan County (TW)

(73) Assignee: **Fu Ling Chang**, Taoyuan County (TW)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **13/919,001**

(22) Filed: **Sep. 14, 2013**

(65) **Prior Publication Data**
US 2013/0345935 A1 Dec. 26, 2013

(30) **Foreign Application Priority Data**
Jun. 19, 2012 (TW) 101121833 A

(51) **Int. Cl.**
F02D 29/02 (2006.01)
B60Q 1/06 (2006.01)
F02D 11/10 (2006.01)
F02D 11/00 (2006.01)
F02D 11/02 (2006.01)

(Continued)

(52) **U.S. Cl.**
CPC **F02D 29/02** (2013.01); **B60Q 1/06** (2013.01);
B60Q 1/143 (2013.01); **B60Q 1/28** (2013.01);
F02D 11/00 (2013.01); **F02D 11/02** (2013.01);
F02D 11/10 (2013.01); **F02D 11/105**
(2013.01); **F02D 11/106** (2013.01); **B60Q**
2300/116 (2013.01); **B60Q 2300/314** (2013.01);
F02D 2011/101 (2013.01)

(58) **Field of Classification Search**
None
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

4,402,286 A * 9/1983 Pagel F02N 11/0814
123/179.3
5,510,657 A * 4/1996 Morita B60R 16/03
307/9.1
6,854,286 B2 * 2/2005 Bureau B60H 1/00321
62/244

(Continued)

FOREIGN PATENT DOCUMENTS

JP 6375323 A * 4/1988
JP 2010018236 A * 1/2010
WO WO 2012/164677 A * 12/2012

OTHER PUBLICATIONS

Toyota; applicable portion of 2010 Camry Owner's Manual, Printed Jan. 2009, p. 131, <http://www.toyota.com/owners/web/pages/resources/owners-manuals#Owners-Manuals>.*

(Continued)

Primary Examiner — Rami Khatib

Assistant Examiner — David Merlino

(74) *Attorney, Agent, or Firm* — Min-Lee Teng; Litron Patent and Trademark Office

(57) **ABSTRACT**

A simple and effective control method is disclosed for starting and stopping the engine of a vehicle during an idling stop of the vehicle, wherein an integration controller can be used to achieve those purposes. In particular, a useful control method is disclosed for stopping and restarting engine while vehicles wait for stoplight. It is using equipment, such as two brake levers, to interact with a start-button, wherein electrical signals generated from the operation of the equipment are divided into two different groups of control signals to achieve the operation control of the engine starting or stopping when the start button is pressed. By using the method of present invention, a vehicle driver driving on the road can have a simple and secure operation method to stop or start the engine of the vehicle during an idling stop of the vehicle.

8 Claims, 2 Drawing Sheets

